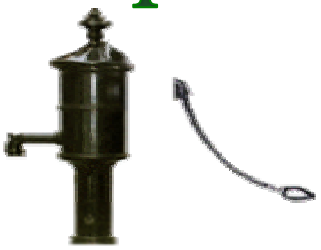
The Pump Handle



"I had an interview with the Board of Guardians of St. James's parish, on the evening of Thursday, 7th September, and represented the above circumstances to them. In consequence of what I said, the handle of the pump was removed on the following day."

John Snow, 1855

May 2004 Topics

- Identifying Foodborne Illness
- Hantavirus
- May Is National Hepatitis Month
- Reporting Requirements

Identifying Foodborne Illness

The Centers for Disease Control and Prevention estimates that each year 76 million people get sick, more than 300,000 are hospitalized and 5,000 die as a result of foodborne illness. Foodborne illness is a growing public health concern. Many populations at risk for serious infection are increasing, such as transplant patients, the number of people older than 65 and people who have HIV and other immunosuppressive conditions.

The North Dakota Department of Health (NDDoH) investigated five foodborne outbreaks in 2003 resulting in over 70 illnesses. *E.coli* O157:H7 was the contributing factor in two outbreaks (one resulting in a West Fargo packing plant recall), two outbreaks were caused by Norovirus and one outbreak was determined a probable food intoxication.

However, many small outbreaks do not get reported to the NDDoH. Health-care providers play an important role in identifying and preventing foodborne disease outbreaks. A foodborne disease outbreak should be reported if more than two patients are found to have ingested a common food or meal. Obtaining stool or vomit specimens and timely reporting to appropriate authorities are the most important factors in identifying and preventing further spread of foodborne illness. To report foodborne illnesses, contact your local public health unit, the field epidemiologist in your area or the Division of Food and Lodging.

The American Medical Association is offering Diagnosis and Management of Foodborne Illness: A Primer for Physicians and Other Health Care Professionals **free for physicians** to download at the website: www.ama-assn.org/ama/pub/category/3629.html. The primer provides information about diagnosis, treatment and reporting of foodborne illness and offers continuing medical education (CME) credits.

Hantavirus

Hantavirus pulmonary syndrome (HPS) is a viral infection that causes severe lung disease. The virus can be transmitted to people through a bite from a mouse or exposure to mouse urine and fecal droppings. HPS is not transmitted from person to person. People are at risk when cleaning out summer lake homes or storage bins that are uninhabited during winter months and that may become infested by rodents during the off season.

Symptoms of HPS usually occur two to three weeks after infection. Early symptoms commonly include fever, muscle and body aches, fatigue, headache, dizziness, chills, nausea and vomiting. The illness worsens within a short period of time to include cough and severe shortness of breath when lungs fill with fluid.

Seven cases of HPS have been reported to the North Dakota Department of Health since 1993. Four of these cases were fatal. Nationwide, 363 cases have been reported, of which 134 were fatal.

HPS is prevented by taking precautions against rodent infestation and proper disinfection:

- Fill any holes in your home or cabin that you can place your finger into.
- Clean droppings or urine with 1 part chlorine bleach to 10 parts water.
- Wear rubber gloves and a paper mask while cleaning.
- Do not vacuum or sweep to avoid making virus-containing particles airborne.

For more information, call the North Dakota Department of Health at 701.328.2378.

May Is National Hepatitis Month

The most common types of viral hepatitis in the United States are hepatitis A, hepatitis B and hepatitis C. Hepatitis B and C can lead to serious, permanent liver damage resulting in cirrhosis, liver cancer or liver failure.

Hepatitis A is transmitted in food and water contaminated with human fecal matter. Infected food handlers and those who have used contaminated needles are also at risk for transmission. Since the hepatitis A vaccine has been made available to populations where hepatitis A cases are prevalent, the number of cases in North Dakota decreased from 140 cases in 1996 to two cases in 2003.

People who are at risk of being infected with hepatitis B or C include health-care workers, people who have multiple sex partners, intravenous drug users and hemophiliacs. Infants born to hepatitis B-infected mothers can contract the virus in up to 90 percent of cases.

Hepatitis B immunoglobulin (HBIG) and hepatitis B vaccine should be administered to infants born to hepatitis B surface antigen (HBsAg) positive women within 12 hours of delivery. HBIG and hepatitis B vaccine are provided at no charge to all delivery hospitals in North Dakota. Mothers with an unknown status at the time of delivery should be screened for HBsAg before discharge, and their infants should receive hepatitis B vaccine. HBIG can be delayed for up to seven days while waiting for the mother's test results.

Follow-up testing for hepatitis B surface antibody (anti-HBs) should be conducted when the infant is age 9 months to 15 months to determine if the vaccine has provided protection against hepatitis B. Table 1 provides information about the 55 children born to HBsAg-positive mothers reported in North Dakota since the initiation of the program.

Number of Infants Born to HBsAg Mothers
North Dakota, 1992-2003

Year	Number of Infants Born	Year	Number of Infants Born
1992	1	1998	5
1993	4	1999	8
1994	11	2000	2
1995	5	2001	1
1996	6	2002	5
1997	5	2003	2

Follow-up of these infants indicated that:

- Twenty-six completed the vaccination series and tested positive for anti-HBs.
- Ten moved out of the state prior to completion of the program.
- Thirteen were lost to follow-up prior to being tested for anti-HBs.
- Three were lost to follow-up prior to completing the hepatitis B vaccine series.
- One was negative for anti-HBs and needs to be revaccinated.
- Two are still being followed up (both need anti-HBs testing).
- One additional case moved to North Dakota from out of state and needs to complete the hepatitis B vaccine series and anti-HBs testing.

Many cases of perinatal hepatitis B are not reported until after delivery or not at all. Testing and reporting HBsAg-positive pregnant women before the birth of the child or at the time of delivery is necessary to ensure that infants born to HBsAg-positive women receive both the HBIG and hepatitis B vaccine to prevent chronic hepatitis B infections.

Reporting Requirements

The State Health Council has approved changes to the North Dakota Department of Health mandatory reportable conditions list to be effective July 1, 2004. Changes include adding severe acute respiratory syndrome (SARS) and all CD4 test results as reportable conditions and changing arboviral encephalitis to arboviral infection.

Reporting can be done by the following: by telephone at 800.472.2180; by fax at 701.328.0355; by mail or electronically at the website www.health.state.nd.us/disease/Disease%20Reporting/DiseaseCard.htm.

Epidemiologic investigations rely on complete information about the person diagnosed with a reportable condition. Reporting information for each patient should include:

- Name.
- Race/ethnicity.
- Date of birth (or age).
- Gender.
- Street address, including home zip code.
- Area code and telephone number.
- Hospitalization status.

This information enables prompt action to be taken to locate the person and conduct an epidemiologic investigation to assist in the prevention of the spread of the disease.

Contributing authors of The Pump Handle include Julie Goplin, Tracy Miller, Kirby Kruger and Larry Shireley. For questions, suggestions or inquiries, or to be removed from the mailing list, please contact Julie Goplin of the Division of Disease Control at 701.238.2375 or by email at ***jgoplin@state.nd.us****.*

The pump handle picture in the title was obtained from the website **www.ph.ucla.edu/epi/snow.html**.

NORTH DAKOTA
DEPARTMENT *of* HEALTH

Terry Dwelle, MD, MPHTM, State Health Officer
Craig Lambrecht, MD, MPH, Chief, Medical Services Section
Larry A. Shireley, MS, MPH, Director, Division of Disease Control